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Title: Reciprocal imbalance or coexistence? The distribution of Th17 and Treg cells in peripheral blood lymphocytes in patients with non-small-cell lung cancer and its significance

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Body: Objective: To investigate the the distribution of Th17 in relation to Treg in PBMC in patients with non-small cell lung cancer and its significance. Methods:: We analyzed T cells in the peripheral blood of 22 patients with Stage IV, 18 patients with Stage III, 8 patients with Stage I-II and 20 healthy volunteers. The proportions of Th17 and Treg cells in peripheral blood were determined by flow cytometry.

The plasma level of IL-17 and TGF- β were measured by ELISA and the mRNA expressions of ROR γ t and FOXP3 were detected by realtime PCR. Results: The frequency of blood Th17 cells and IL-17A levels in plasma were increased in all patients with non-small cell lung cancer. The ratio of Th17 and Treg cells in patients with Stage IV are much higher than that in early stage. Particularly, we detected a small portion of CD4+IL17+Foxp3+T cells in the peripheral blood. Patients with Stage IV have much this kind of double positive helper T cells than other groups. Conclusions: Reciprocal imbalance of Th17/Treg were found in patients with early disease. The elevated Th17 cell and Treg cell responses were associated with advanced disease, which indicated coexistence of Th17 cell and Treg cell instead of reciprocal imbalance was the major part in the antitumor immunity with the progression of non-small cell lung cancer.